ERROR DETECTED SUGGESTED CORRECTION SERIAL NUMBER: ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE _ Wrapped Nucleics The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping". Wrapped Aminos The amino acid number/text at the end of each line "wrapped " down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping". The rules require that a line not exceed 72 characters in length. This includes spaces. Incorrect Line Length The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs Misaligned Amino Acid between the numbering. It is recommended to delete any tabs and use spacing between the numbers. Numbering 5 ____ Non-ASCII This file was not saved in ASCII (DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text so that it can be processed. Variable Length contain n's or Xaa's which represented more than one residue. As per the rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing. Patentin ver. 2.0 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences. Skipped Sequences _ missing. If intentional, please use the following format for each skipped sequence: Sequence(s) _ (OLD RULES) (2) INFORMATION FOR SEQ ID NO:X: (i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS") (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: This sequence is intentionally skipped Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s). Skipped Sequences Sequence(s) __

_ missing. If intentional, please use the following format for each skipped sequence. (NEW RULES) <210> sequence id number <400> sequence id number Use of n's and/or Xaa's have been detected in the Sequence Listing. (NEW RULES) Use of <220> to <223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents. Use of <213>Organism are missing this mandatory field or its response. (NEW RULES) Use of <220>Feature are missing the <220>Feature and associated headings. (NEW RULES) Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown" Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules) Patentin ver. 2.0 "bug" Please do not use "Copy to Disk" function of Patentln version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).

Instead, please use "File Manager" or any other means to copy file to floppy disk.

OIPE

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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/672,725

DATE: 10/06/2000
TIME: 12:46:04
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Input Set : A:\485402_1.txt

Output Set: N:\CRF3\10062000\1672725.raw

ERRORED SEQUENCES

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Lys Asn Phe Trp Lys Met Gly Lys Lys Ser Lys Lys Asn Glu Lys Lys
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37
38
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41
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RAW SEQUENCE LISTING DATE: 10/06/2000 PATENT APPLICATION: US/09/672,725 TIME: 12:46:04

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	02		270					275					280					
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	05	GIU	Ala	гга	GIY	TTE			LYS	Lys	Ala			` Ala	ı Asn	Ile	Ser	
) 6) 8	285					290					295					300	
) B																ttc	964
	10	116	: СТУ	ATG	Ald			Leu	. ite	: Tyr			Tyr	· Ala	Leu		Phe	
	12	+~~	. + -+	~~~		305					310					315		
	13																caa	1012
	L3 L4	тър	TĀT	СТУ	320		Leu	Val	ren	325		GIU	туг	ser		-	Gln	
1:		rt a	ata	201			+++	+	a+ >			~~~			330			1000
	17	Wal	T.Au	Thr	Val	Dho	Dho		y La	. LLa	. all	999	900	. ill	. agt	att	gga Gly	1060
13		Val	пер	335		Pile	PHE	ser	340		TTE	GIA	Ald	345		ire	GIY	
	20	C a C				200	+ +	~~~			~~~						qct	1100
	21																Ala	1108
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12		Tyr	Gli	Tle	Pho	Lve	Tla	. ull) ac	Δen	Laze	Dro	Sor	. all	. yac	ayc	Tyr	1156
		+ 7 T	014	110	FIIE	LIYS	116	116	ASP	MSII	пуз	PIO	ser	тте	Asp	ser	TAL	

 RAW SEQUENCE LISTING
 DATE: 10/06/2000

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 RAW SEQUENCE LISTING
 DATE: 10/06/2000

 PATENT APPLICATION:
 US/09/672,725
 TIME: 12:46:04

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201	Ser		Arg	Arg	Ser	шe		Ala	Pro	GIn	GTÄ	680	Asp	Arg	ьуs	Leu	
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204 205									aat Asn								2110
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240 241									gtc Val								2340
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250					865					870					875		
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254				880					885					890			2740
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RAW SEQUENCE LISTING PATENT APPLICATION: US/09/672,725 DATE: 10/06/2000 TIME: 12:46:04

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	298	110		L055	Gair	Ory	Licu		1060	Gra	Val	БуЗ	-	.065	OI!	1111	пси	
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	301											Ser						3200
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	318	TTE		135	GTĀ	vab	ASII		140	* a.t	AUT	Set		.145	Gru	TTG	ric t	
	320	C 2 C			220	~~~	anc			020	C2.C	++0			202	ctc	aat	3508
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•	221	GTII	u _T q	AId	пÄг	GIU	VTq.	MOII	TTG	HTS	nrs	File	++6	GIU	TIIT	ueu	LIO	

DATE: 10/06/2000 RAW SEQUENCE LISTING PATENT APPLICATION: US/09/672,725 TIME: 12:46:04

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     325
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1185 1190 1195
     329
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                                                                                        3700
     336
     337
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           tgc att gtg atc gcc cac cgc ttg tcc acc atc cag aat gca gat tta
Cys Ile Val Ile Ala His Arg Leu Ser Thr Ile Gln Asn Ala Asp Leu
1230 1235 1240
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     341
     342
           ata gtg gtg ttt cag aat ggc aaa gtc aag gag cat ggc aca cat caa
Ile Val Val Phe Gln Asn Gly Lys Val Lys Glu His Gly Thr His Gln
                                                                                       3796
     344
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           1245
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                                1250
                                                       1255
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           cag ctg ctg gcc cag aaa ggc atc tat ttt tcc atg gtc agt gtc cag Gln Leu Leu Ala Gln Lys Gly Ile Tyr Phe Ser Met Val Ser Val Gln 1265 1270 1275
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           Ala Gly Ala Lys Arg
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                      1280
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     361 ggtaaaaagt actgaatgtt tgaataaagt gctagctata ataaaactaa acttttatat
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20 25 30
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           Thr Val Ser Thr Phe Ala Met Phe Arg Tyr Ser Asn Trp Leu Asp Arg
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           Leu Tyr Met Leu Val Gly Thr Met Ala Ala Ile Ile His Gly Ala Ala
                                      55
     377
                                                                                              Computer program
           Leu Pro Leu Met Met Leu Val Phe Gly Asn Met Thr Asp Ser Phe Ala
                                                      75
     379
                                 70
           Asn Ala Gly Ile Ser Arg Asn Lys Thr Phe Pro Val Ile Ile Asn Glu
                                                                                             only counts 4259.
                                                                                            This causes an error
                                                                                           between the number
                                                                                           listed, (ZII) 4279
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and number found:

4259

RAW SEQUENCE LISTINGPATERT APPLICATION: US/09/672,725

DATE: 10/06/2000

TIME: 12:46:04

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Output Set: N:\CRF3\10062000\1672725.raw

382 Ser Ile Thr Asn Asn Thr Gln His Phe Ile Asn His Leu Glu Glu Glu 105 383 100 110 Met Thr Thr Tyr Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val Leu 115 120 125384 385 Val Ala Ala Tyr Ile Gln Val Ser Phe Trp Cys Leu Ala Ala Gly Arg 130 135 140386 387 Gln Ile Leu Lys Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg Gln 145 150 160 388 389 Glu Ile Gly Trp Phe Asp Val His Asp Val Gly Glu Leu Asn Thr Arg 165 170 175 390 Leu Thr Asp Asp Val Ser Lys Ile Asn Glu Gly Ile Gly Asp Lys Ile 180 $$180\,$ Gly Met Phe Phe His Ser Ile Ala Thr Phe Phe Thr Gly Phe Ile Val 195 200 205 394 395 Gly Phe Thr Arg Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile Ser 210 215 220 396 397 Pro Val Leu Gly Leu Ser Ala Ala Ile Trp Ala Lys Ile Leu Ser Ser 225 230 235 240398 399 Phe Thr Asp Lys Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val Ala 245 250 255 400 401 Glu Glu Val Leu Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln 260 265 270 402 403 Lys Lys Glu Leu Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Gly 275 280 285 404 405 Ile Gly Ile Lys Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala 290 295 300 407 Phe Leu Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr 305 310 315 320 409 Ser Leu Val Leu Ser Ser Glu Tyr Ser Ile Gly Gln Val Leu Thr Val 325 330 335 410 411 Phe Phe Ser Val Leu Ile Gly Ala Phe Ser Ile Gly Gln Ala Ser Pro 340 345 350412 413 Ser Ile Glu Ala Phe Ala As
n Ala Arg Gly Ala Ala Tyr Glu Ile Phe $355 \hspace{1.5cm} 360 \hspace{1.5cm} 365 \hspace{1.5cm}$ 414 415 Lys Ile Ile Asp Asn Lys Pro Ser Ile Asp Ser Tyr Ser Lys Ser Gly 370 375 380 416 417 His Lys Pro Asp Asn Ile Lys Gly Asn Leu Glu Phe Lys Asn Val His 385 390 395 400 418 419 Phe Ser Tyr Pro Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn 405 410 420 421 Leu Lys Val Gln Ser Gly Gln Thr Val Ala Leu Val Gly Asn Ser Gly $420 \hspace{1.5cm} 425 \hspace{1.5cm} 430 \hspace{1.5cm}$ 422 423 Cys Gly Lys Ser Thr Thr Val Gln Leu Met Gln Arg Leu Tyr Asp Pro $435 \hspace{1.5cm} 440 \hspace{1.5cm} 445$ 424 Thr Asp Gly Met Val Cys Ile Asp Gly Gln Asp Ile Arg Thr Ile Asn 450 455 460 Val Arg His Leu Arg Glu Ile Thr Gly Val Val Ser Gln Glu Pro Val 465 470 475 480 428 Leu Phe Ala Thr Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asn

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435	-		515		-			520	-		_		525		_	
436	Ara	Glv	Ala	Gln	Leu	Ser	Glv	Glv	Gln	Lvs	Gln	Arq	Ile	Ala	Ile	Ala
437	5	530					535			- 2 -	-	540				
438	Δra		T.eu	Va 1	Ara	Asn		Lvs	Tle	Leu	Len		Asp	Glu	Ala	Thr
439	545	AIG	LCu		212.9	550		2,5		200	555	Doa	1101			560
440		70.1 -2	Tan	λαη	Thr		Sar	Glu	αla	V=1		Gln:	Val	Ala	T.eu	
441	ser	Ата	Leu	nsp	565	GIU	Ser	GLu	Ara	570	Val	GIII	var	AIG	575	
	T	31.	3	T		7	mb m	mb ~	т10		T10	212	шіс	7 ~~		cor
442	rys	Ala	Arg		GIY	AIG	THE	THE		Val	TTE	Ala	uis	Arg 590	пец	Ser
443	_,			580				-1 -	585	01	n				37-1	T1 -
444	Thr	Val		Asn	Ala	Asp	vaı		Ата	GTĀ	Pne	Asp		Gly	Val	ire
445			595					600					605			_
446	Val	Glu	Lys	Gly	Asn	His		Glu	Leu	Met	Lys		Lys	Gly	Ile	${ t Tyr}$
447		610					615					620				
448	Phe	Lys	Leu	Val	Thr	Met	Gln	Thr	Arg	Gly		Glu	Ile	Glu	Leu	
449	625					630					635					640
450	Asn	Ala	Thr	Gly	Glu	Ser	Lys	Ser	Glu	Ser	Asp	Ala	Leu	Glu	Met	Ser
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453		_	-	660					665					670		
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455			675				-	680	-	_	-		685		-	
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457	···	690					695					700	,			-
458	Len		Ser	Thr	Glu	Tro		Tyr	Phe	Va1	Va1		T1e	Phe	Cvs	Ala
459	705	11511	DCI		014	710		-1-			715	0.27			-1-	720
460		Tla	Acn	C137	Clv		Gln	Dro	Δla	Dha		Tle	Tle	Phe	Ser	
461	116	116	AJII	GIY	725	пец	GIII	110	niu	730	JCI	110	110	1 110	735	**** 9
462	т1 о	T10	C1	т10		Thr	7 ~~	7 an	Clu		Dro	Clu	Thr	Lys		Gln
	116	TIE	GIY	740	PHE	1111	AIG	ASP	745	ASP	110	GIU	TIII	750	Arg	GIII
463	•	a			nı.	C	37-3	T		T	17 - 1	τ	C1		тіо	Con
464	Asn	ser		met	Pne	ser	Val		Pne	Leu	Val	ьeu	765	Ile	rre	261
465			755			_		760	-1	m1	n1	0.1			a 1	01
466	Phe		Thr	Phe	Phe	Leu		GTA	Pne	Thr	Pne		глг	Ala	GIA	GIU
467	_	770		_	_	_	775	_				780	_		_	_
468		Leu	Thr	Lys	Arg		Arg	Tyr	Met	Val		Arg	Ser	Met	Leu	
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476	Ile	Ile	Ile	Ser	Leu	Ile	Tyr	Gly	Trp	Gln	Leu	Thr	Leu	Leu	Leu	Leu
477		850				_	855	-	-			860				
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 RAW SEQUENCE LISTING
 DATE: 10/06/2000

 PATENT APPLICATION:
 US/09/672,725
 TIME: 12:46:04

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                                                   890
                                                                          895
           Lys Ile Ala Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser Leu 900 \hspace{1.5cm} 905 \hspace{1.5cm} 910
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           Thr Arg Glu Gln Lys Phe Glu Tyr Met Tyr Ala Gln Ser Leu Gln Val 915 920 925
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           Phe Gly Ala Tyr Leu Val Ala Asn Glu Phe Met Asn Phe Gln Asp Val
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           Val Ser Ser Phe Ala Pro Asp Tyr Ala Lys Ala Lys Val Ser Ala Ala 995 1000 1005
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           His Val Ile Met Ile Ile Glu Lys Ser Pro Leu Ile Asp Ser Tyr Ser
1010 1015 1020
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          Pro His Gly Leu Lys Pro Asn Thr Leu Glu Gly Asn Val Thr Phe Asn 1025 1030 1035 104
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E--> 499
           Glu Val Val Phe Asn Tyr Pro Thr Arg Pro Asp Ile Pro Val Leu Gin
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     518
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1250 1255 1260
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544	gago	gtgac	g at	g ga	IT CO	et ga	la gç	Ja 99	JO CO	ji ac	19 99 70 G1	y ay	ι ο 90 1 ~ 1 Δ 1	a GI	lu Ta	ig aac 's Asn	
545			ме		sh hi	.0 63	.u Gi		Ly Ai	.9 103	3 91		.0	02	.u	D 11011	
546	++0	+ ~~			aac	aaa			222	aaa.	gag			σаа	aaσ	aaa .	159
548 549	Dho	Urn	Tuc	Mot	C117	Lys	T.17 C	Ser	Lvs	Lvs	Glu	Lvs	Lvs	Glu	Lvs	Lvs	
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560	gca	ctc	cct	ctc	atq	atg	ctq	qtt	ttt	gga	aac	atg	aca	gat	agc	ttt	303
561	Ala	Leu	Pro	Leu	Met	Met	Leu	Val	Phe	Gly	Asn	Met	Thr	Asp	Ser	Phe	
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565	Āla	Asn	Ala	Gly	Ile	Ser	Arg	Asn	Lys	Thr	Phe	Pro	Val	Ile	Ile	Asn	
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573	Glu	Met	Thr	Thr		Ála	Tyr	Tyr	Tyr	Ser	GTĀ	тте	GTĀ	Ala	GIY	Val	
574					115					120					125	~~~	4.95
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578				130							+++	an+	ant		ata	cas	543.
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581	Arg	GIN	11e	ren	туу	116	AIG	150	GIII	riie	FILE	1112	155	110	1100	2129	
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584	cag	gag	Tla	990	Lyy	Phe	Acn	y cy 17 = 1	Uic	Acn	Val	Glv	Glu	Len	Asn	Thr	
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589	Ara	Len	Thr	Agn	Agn	Val	Ser	Lvs	Tle	Asn	Glu	Glv	Ile	Gĺv	Asp	Lys	_
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592	at+	aas	ato	ttc	ttt	caa	tca	ata	qca	aca		ttc	acc	ggt	ttt	ata	687
593	Val	Glv	Met	Phe	Phe	Gln	Ser	Ile	Ala	Thr	Phe	Phe	Thr	Gly	Phe	Ile	
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597	Val	. Gly	Phe	Thr	Pro	Gly	Trp	Lys	Leu	ı Thr	Leu	ı Val	. Ile	Leu	Ala	Ile	
598				210					215					220)		
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601	Ser	Pro	Val	Leu	Gly	Leu	Ser	Ala	ιAla	Ile	Trp	Āla	Lys	Ile	Leu	Ser	
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609	Ala	Glu	Glu	Val	Leu	Āla	Āla	Ile	Ara	Thr	Val	Tle	Δla	Dho	Clu	Gly	0/9
610	255					260			5		265		· ·······	1 110	GLY	270	
612	caa	aaq	aaa	gaa	ctt			tac	aac	222	205	++=		~	~~+	aaa	007
613	Gln	Lvs	Lvs	Glu	Len	Glu	Ara	Tur	Asn	Luc	λen	LLa	Clu	Clu	71-	daa	927
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616	аσа	att	aaa	ata			act	atri	acg						285		
617	Ara	Tle	Glv	Tla	Lug	Tyc	717	TIA	Thr	310	aac	att	TCE	att	ggt	gcc	975
618	•••	-10	017	290	пуз	цуз	АТФ	ire	295	Ala	ASh	rre	Ser		GTA	Ala	
620	act	tta	++=		2+0	+ - +								300			
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629	vai	Phe	Phe	Ser	Val	Leu	Ile	Gly	Ála	Phe	Ser	Ile	Gly	Gln	Ala	Ser	
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654	_	-	-	•	435				-	440		7111	. 12 9	₽C U	445	vəħ	
656	ccc	aca	qat	qqc		atc	tat	att	gat		сап	aac	a++	200	747	2+2	1455
657	Pro	Thr	Asp	Ğĺv	Met	Val	Cvs	Tle	Asp	Glv	Cln	Agn	Tlo	129	mb =	ala Tla	1455
658			•	450			J, 2		455	J-1	O-11	nah		460	TIIT	тте	
														-200			

DATE: 10/06/2000 TIME: 12:46:04

660	aat	gta	agg	cat	ctt	cgg	gaa	att	act	ggt	gtg	gtg	agt	cag	gag	cct	1503
661 662	ASN	val	465	HIS	Leu	Arg	GIu	11e 470	Thr	Gly	Val	Val	Ser		Glu	Pro	•
664	ata	tta	ttt	acc	acc	acq	ata	act	gaa	aac	att	cac	tat	aac	cac	ma a	1551
665	Val	T.e.ii	Phe	A1a	Thr	Thr	Tle	λla	Clu	Acn	T10	Ara	mrr-	990	700	GI	1331
666		480					485					490					
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669	Asn	Val	Thr	Met	Asp	Glu	Ile	Glu	Lvs	Ăla	Val	Lvs	Ğlu	Ala	Asn	Ala	
670	495				-	500					505	-1-			-10.00	510	
672	tat	gat	ttt	atc	ato	aaa	cta	cct	aat	aaa		пас	act	cta	att		1647
673	Tvr	Asp	Phe	Tle	Met	Lvs	Leu	Pro	Agn	Luc	Dhe	Acn	Thr	T.eu	Val	Clu	1047
674	-1-				515	110	204	110	11511	520	THE	нар	1111	пец	525	GIY	
676	gag	ада	999	acc			act	aat	aaa		222	020	303	2 t a		~++	1695
677			Gly														1093
678	Giu	AT 9	GLY	530	AT 9	neu	Set	Gry	535	GLII	TAS	GIII	Arg		Ald	rre	
680	ant.	~~~	~~~		~++	~~~								540			
681	312	200	gcc	tou	yet	- ege	aac	ecc	aag	att	CLL	ctg	ctg	gat	gag	gca	1743
682	на	ALG	Ala	Leu	val	Arg	ASI		гàг	TTE	ьeu	Leu		Asp	Glu	Ala	
			545					550					555				
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686		560					565					570					
688			gcc														1839
689		Lys	Ala	Arg	Lys		Arg	Thr	Thr	Ile	Val	Ile	Ala	His	Arg	Leu	
690	575					580					585					590	
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697	Ile	Val	Glu	Lys	Gly	Asn	His	Asp	Glu	Leu	Met	Lys	Glu	Lys	Gly	Ile	
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701	Tyr	Phe	Lys	Leu	Val	Thr	Met	Gln	Thr	Arq	Ğĺv	Asn	Ğlu	Ile	Glu	Leu	
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705	Ğ1u	Asn	Ála	Thr	Glv	G1u	Ser	Lvs	Ser	Glu	Ser	Asp	Ala	Len	Glu	Met	2031
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708	tct	cca	aaa	gat	tca	·aaa	tcc	agt	tta	ata	aaa		aga	tca	act	cac	2079
709	Ser	Pro	Lys	Asp	Ser	G1v	Ser	Ser	Leu	Tle	Lare	Ara	Ara	Cor	Thr.	7.20	2019
710	655					660	001	DCI	LCu	110	665	nı 9	ni 9	Ser	1111	670	
712		agt	ata	cat	aca		Caa	aac	C22	a = c		220	a++	aa+	202		2127
713	Ara	Sar	Ile	Hic	λla	Dro	Cln	Class	Cln	Jan	aya Ama	aay	Tan	991	aca	add	2127
714	* * * 9	DCI	110	1113	675	110	GIII	GLY	GIII	680	AIG	пуъ	Leu	GIY		гуѕ	
716	nen	a a a	++~	a a +		22+	~++	aa+	+		+				685		0175
717	Clu	200	ttg	aac aac	Glu	aat Aan	y L L	000	Ca	gil.	LCC	LLC	rgg -	agg	att	ctg	2175
718	GLU	иър	Leu		GIU	ASI	Val	Pro		val	ser	Pne	Trp		TTE	Leu	
720	220	ate	226	690	+	~~~	.		695					700			
721			aac														2223
721	пÄВ	₽ĠſĬ	Asn	ser,	THE	GIU	rrp		туг	rne	var	val	_	ше	Phe	Cys	
	aat		705					710					715				
724	yet	att	ata	aac	gga	ggc	ctg	caa	cca	gca	ttt	tca	ata	ata	ttt	tça	2271

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725 726	Ala	Ile 720	Ile	Asn	Gly	Gly	Leu 725	Gln	Pro	Ala	Phe	Ser 730	Ile	Ile	Phe	Ser	
728	agg		ata	aaa	atc	ttt	acc	cqa	gat	qaq	gat	cct	gaa	aca	aaa	cga	2319
729							Thr										
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740	gag	atc	ctc	act	aaq	caa	ctt	cqa	tac	atq	gtt	ttc	aga	tcc	atg	ctg	2463
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749							Asn										
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753							Ile										
754	- 2		,		835					840					845		
756	qqc	att	att	ata	tcc	tta	atc	tat	ggt	tgg	caa	tta	aca	ctt	tta	ctc	2655
757	Ğĺv	Ile	Ile	Ile	Ser	Leu	Ile	Tyr	Gly	Trp	Gln	Leu	Thr	Leu	Leu	Leu	
758	-			850				-	855	_				860			
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761	Leu	Ãla	Ile	Val	Pro	Ile	Ile	Ala	Ile	Ala	Gly	Val	Val	Glu	Met	Lys	
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766		880					885					890					
768							gcc										2799
769	Gly	Lys	Ile	Ala	Thr	Glu	Ala	Ile	Glu	Asn		Arg	Thr	Val	Val	Ser	
770	895					900					905					910	
772							ttt										2847
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776	gta	cca	tac	aga	aac	tct	ttg	agg	aaa	gca	cac	atc	ttc	ggg	gtc	tca	2895
777	Val	Pro	Tyr	Arg	Asn	Ser	Leu	Arg		Ala	His	Ile	Phe		Val	Ser	
778				930					935					940			
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781	Phe	Ser		Thr	Gln	Ala	Met		Tyr	Phe	Ser	Tyr		Gly	Суѕ	Phe	
782			945					950					955				
784							gtg										2991
785	Arg		Gly	Ala	\mathtt{Tyr}	Leu	Val	Ala	Asn	Glu	Phe		Asn	Phe	Gln	Asp	
786		960					965					970					
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793				s Ala Lys Val Ser	Ala
794		95	1000	1005	. 2425
796	gcc cac gtc atc at	tg atc att gaa	aaa agc cc	t ctg att gac agc	tac 3135
797	Ala His Val Ile Me	et Ile Ile Glu	Lys Ser Pr	o Leu Ile Asp Ser	Tyr
798	1010		1015	1020	
800	age cet cae gge et	to aag coa aat	acg ttg ga	a gga aat gtg aca	ttt 3183
801	Ser Pro His Gly Le	eu Lys Pro Asr	Thr Leu Gl	u Gly Asn Val Thr	Phe
802	1025	1030		1035	
804	aat gag gtc gtg ti	to aac tat coo	act cga cc	a gac atc ccc gtg	ctc 3231
805	Asn Glu Val Val Pl	ne Asn Tvr Pro	Thr Arg Pr	o Asp Ile Pro Val	Leu
806	1040	1045	_	1050	
808			aag ggc ca	ig acg ctg gcc ctc	gta 3279
809	Cln Cly Leu Ser Le	an Glu Val Lvs	Lvs Glv Gl	n Thr Leu Ala Leu	Val
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812	agt agg agt ggg to			t cag ctc cta gag	cqc 3327
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813	10		1080	1085	,
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820	aag cac ctg aat g	to cag tgg cto	e ega gea ca	ac ctg ggc atc gtg	Con
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822	1105	1110		1115	tat 3471
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826	1120	1125		1130	2510
828	gga gac aac agc c	gg gte gta tca	ı cat gaa ga	ng att atg cag gca	gcc 3519
829	Gly Asp Asn Ser A			lu Ile Met Gln Ala	Ala
830	1135	1140		L45	1150
832	aag gag gcc aac a	ta cac cac tto	atc gag ac	ca ctc cct gag aaa	tac 3567
833	Lys Glu Ala Asn I	le His His Ph ϵ	e Ile Glu Th	nr Leu Pro Glu Lys	Tyr
834	11	55	1160	1165	
836	aac acc aga gta g	ga gac aaa gga	acc cag ct	to tot ggt ggc cag	aaa 3615
837	Asn Thr Arg Val G	ly Asp Lys Gly	Thr Gln Le	eu Ser Gly Gly Gln	Lys
838	1170		1175	1180	
840	cag ege att gee a	tá gct cgc gci	ctt gtt ag	ga cag cct cat att	ttg 3663
841	Gln Arg Ile Ala I	le Ala Arg Ala	a Leu Val Ar	rg Gln Pro His Ile	Leu
842	1185	1190		1195	
844	ctt ttg gat gaa g	ct aca tca gci	ctq gat ac	ca gaa agt gaa aag	gtt 3711
845	Leu Leu Asp Glu A	la Thr Ser Ala	a Leu Asp Th	ar Glu Ser Glu Lys	Val
846	1200	1205		1210	
848	ate caa daa dee e		aga gaa g	go ogo aco tgo att	qtq 3759
849	Val Glu Glu Ala I.	en Asp Lvs Ala	Ara Glu Gl	ly Arg Thr Cys Ile	Val
850	1215	1220		225	1230
852				ca gat tta ata gtg	
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854	11e Ala his Aig ii		1240	1245	-
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Output Set: N:\CRF3\10062000\1672725.raw

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1684	Ala	Gly	Val	Leu	Val	Ala	Ala	Tyr	Ile	Gln	Val	Ser	Phe	Trp	Cys	Leu	
1685	125					130					135					140	
1687	gca	gca	gga	aga	cag	ata	ctc	aaa	att	aga	aaa	caa	ttt	ttt	cat	gct	484
1688	Ãla	Ala	Gly	Arg	Gln	Ile	Leu	Lys	Ile	Arg	Lys	Gln	Phe	Phe	His	Ala	
1689					145					150		•			155		
1691	atc	atq	cqa	cag	gag	att	ggc	tgg	ttt	gac	gtg	cat	gac	gtt	ggg	gag	532
1692	Ile	Met	Arq	Gln	Glu	Ile	Gly	Trp	Phe	Asp	Val	His	Asp	Val	Gly	Glu	
1693				160					165					1/0			
1695	ctt	aac	acc	cgg	ctc	aca	gac	gat	gtc	tcc	aaa	atc	aat	gaa	gga	att	580
1696	Leu	Asn	Thr	Arg	Leu	Thr	Asp	Asp	Val	Ser	Lys	Ile	Asn	Glu	Gly	Ile	
1697			175					180					185				
1699	qqc	gac	aaa	att	gga	atg	ttc	ttt	caa	tca	ata	gca	aca	ttt	ttc	acc	628
1700	ĞÎV	Ásp	Lys	Ile	Gly	Met	Phe	Phe	Gln	Ser	Ile	Ala	Thr	Phe	Phe	Thr	
1701	_	190					195					200					
1703	qqt	ttt	ata	gtg	ggg	ttt	aca	cgt	ggt	tgg	aag	cta	acc	ctt	gtg	att	676
1704	Ğĺv	Phe	Ile	Val	Gly	Phe	Thr	Arg	Gly	Trp	Lys	Leu	Thr	Leu	Val	TTe	
1705	205					210					215					220	
1707	ttq	gcc	atc	agc	cct	gtt	ctt	gga	ctt	tca	gcc	gcc	atc	tgg	gca	aag	724
1708	Leu	Ála	Ile	Ser	Pro	Val	Leu	Gly	Leu	Ser	Ala	Ala	Ile	Trp	Ala	Lys	
1709					225					230					235		
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1712	Ile	Leu	Ser	Ser	Phe	Thr	Asp	Lys	Glu	Leu	Leu	Ala	Tyr	Ala	Lys	Ala	
1713				240					245					250			
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1716	Gly	Ala	Val	Ala	Glu	Glu	Val	Leu	Ala	Ala	Ile	Arg	Thr	Val	Ile	Ala	
1717	_		255					260					265				2.50
1719	ttt	gga	gga	caa	aag	aaa	gaa	ctt	gaa	agg	tac	aac	aaa	aat	tta	gaa	868
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1723	gaa	gct	aaa	gga	att	999	ata	aag	aaa	gct	atc	acg	gcc	aac	att	tct	916
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1725	285					290					295					300	0.64
1727	att	ggt	gcc	gct	ttc	tta	ttg	atc	tat	gca	tca	tat	gct	ctg	get	ttc	964
1728	Ile	Gly	Ala	Ala	Phe	Leu	Leu	Ile	Tyr	Ala	Ser	Tyr	Ala	Leu	Ala	Pne	
1729					305					310					315		1010
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1733				320					325					330			1060
1735	gta	ctc	act	gtc	ttc	ttt	tct	gta	tta	att	ggg	gct	ttt	agt	att	gga	1060
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1745	365					370					375			44.		380	1204
1747	tcg	aag	agt	gga	cat	aaa	cca	gat	aat	att	aag	gga	aat	ttg	gaa	ttc	1204
1748	Ser	Lys	Ser	Gly	His	Lys	Pro	Asp	Asn	116	гАг	GIĀ	Asn	ьеи	ı GIU	Phe	

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1751									tct								1252
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p. 6
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     2164
                                1
                                               5
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Lys Asn Phe Trp Lys Met Gly Lys Lys Ser Lys Lys Glu Lys Lys
                                                                                         100
     2166
     2167
     2168
                     15
                                            20
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     2172
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            Trp Leu Asp Arg Leu Tyr Met Leu Val Gly Thr Met Ala Ala Ile Ile
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		GIII	GIU	Pro		Leu	Pue	Ата	Thr		шe	Ala	GIU	Asn		Arg	Tyr	
	2284				480					485					490			
	286		-	-		-		_	_					_	_	aag	-	1540
	2287	Gly	Arg		Asn	Val	Thr	Met		Glu	Ile	Glu	Lys		Val	Lys	Glu	
	288			495					500					505				
	2290	gcc	aat	gcc	tat	gat	ttt	atc	atg	aaa	cta	cct	aat	aaa	ttt	gac	act	1588
2	2291	Ala	Asn	Ala	Tyr	Asp	Phe	Ile	Met	Lys	Leu	Pro	Asn	Lys	Phe	Asp	Thr	
2	292		510					515					520					
2	294	ctg	gtt	gga	gag	aga	ggg	gcc	caq	ctq	aqt	ggt	qqa	caq	aaa	cag	aga .	1636
2	295															Gln		
2	296	525		_		_	530					535	4	•	-1		540	
	298		acc	att	act	caa		cta	att	cac	aac		aar	att	ctt	ctq		1684
	299															Leu		1004
	300	- T.C	ara	***	ard	545	чта	πCΛ	var	arg	550	1.10	пÃр	TIE	Ten	555	Leu	
		~~+	~~~	~~-	205		~~+		~~~									1720
	302															gtt		1732
	303	Asp	GLU	Ala		ser	Ala	ьeu	Asp		GLU	ser	Glu	Ala		Val	GIn	
	304				560					565					570			
	306															ata		1780
2	307	Val	Ala	Leu	Asp	Lys	Ala	Arg	Lys	Gly	Arg	Thr	Thr	Ile	Val	Ile	Ala	

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2308			575					580					585				
2310	cat	cat		tct	aca	att	cat		acc	cat	at c	att		aat	+++	rat	1828
2311					Thr												1020
2312	1113	590	пец	ner	1111	var	595	ASII	пта	Yab	Val	600	AIG	GIY	FIIE	rab	
2314	ast.		ata	2++	ata	~~~		~~~	22+	0a+	~a+		at a	a+~	223	~~~	1876
2314					gtg												10/0
		GIĀ	val	тте	Val		гĀг	GIY	ASII	HIS		GIU	Leu	met	гуз		
2316	605					610					615					620	1004
2318					ttc												1924
2319	Lys	GTĀ	тте	Tyr	Phe	гàг	Leu	Val	Thr		GIn	Thr	Arg	GTĀ		GIu	
2320					625					630					635		
2322					aat												1972
2323	Ile	Glu	Leu		Asn	Ala	Thr	Gly		Ser	Lys	Ser	Glu		Asp	Ala	
2324				640					645					650			
2326					cca												2020
2327	Leu	Glu	Met	Ser	Pro	Lys	Asp	Ser	Gly	Ser	Ser	Leu	Ile	Lys	Arg	Arg	
2328			655					660					665				
2330					agt												2068
2331	Ser	Thr	Arg	Arg	Ser	Ile	His	Ala	Pro	Gln	Gly	Gln	Asp	Arg	Lys	Leu	
2332		670					675					680					
2334	ggt	aca	aaa	gag	gac	ttg	aat	gag	aat	gta	cct	cca	gtt	tçc	ttc	tgg	2116
2335	Gly	Thr	Lys	Glu	Asp	Leu	Asn	Glu	Asn	Val	Pro	Pro	Val	Ser	Phe	Trp	
2336	685					690					695					700	
2338	agg	att	ctg	aaq	ctg	aac	tca	act	qaa	tgg	cct	tat	ttt	qtq	gtt	qqt	2164
2339	Arg	Ile	Leu	Lys	Leu	Asn	Ser	Thr	Glu	Trp	Pro	Tyr	Phe	Val	Val	Gly	
2340	•			-	705					710		-			715	-	
2342	ata	ttt	tat	act	att	ata	aac	qqa	aac	cta	caa	cca	qca	ttt	t.ca	ata	2212
2343					Ile												
2344			-	720				-	725					730			
2346	ata	ttt	tca	agg	att	ata	aga	atc	ttt	acc	cga	gat	gag	gat	cct	gaa	2260
2347					Ile												
2348			735	5			1	740			5		745				
2350	aca	aaa		саσ	aat	agt	aac		+++	tct	αta	tta		cta	atc	ctt	2308
2351					Asn												2000
2352		750		0111	11011		755	1100		501	, 41	760	1 110	LC u	, 41	Deu	
2354	aga		att	tet	ttt	att		+++	ttc	ctc	car		ttc	aca	+++	aac	2356
2355					Phe												2330
2356	765	110	110	ocı	LIIC	770	TILL	LIIC	riic	LCu	775	GIY	riic	1111	riic	780	
2358		act	aaa	a 2 a	atc		a o t	220	aaa	a++		+ = 0	2+4	a++	++0		2404
2359					Ile												2404
2360	гуу	міа	GLY	GIU	785	Leu	TIIT	шys	AIG	790	Arg	TAT	riet	vai	795	AIG .	
2362	+	- + -	~+~			~~+	~+~		+		~~+	~~~	~~+				2452
					cag												2452
2363	ser	мет	ьeu		Gln	Asp	vaı	ser	-	Pne	Asp	Asp	Pro	_	Asn	Inr	
2364				800				_4.4	805					810			2500
2366					aca												2500
2367	Thr	GTĀ		Leu	Thr	Thr	Arg		Ala	Asn	Asp	Ala		Gln	۷al	ьуs	
2368			815					820					825			_	
2370					tcc												2548
2371	GIY		ıте	GTA	Ser	Arg		Ala	Val	TTe	Thr		Asn	He	Ala	Asn	
2372		830					835					840					

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2374	ctt	ggg	aca	ggc	att	att	ata	tcc	tta	atc	tat	ggt	tgg	caa	tta	aca	2596
2375	Leu	Gly	Thr	Gly	Ile	Ile	Ile	Ser	Leu	Ile	Tyr	Gly	Trp	Gln	Leu	Thr	
2376	845					850					855					860	
2378	CEE	tta	ctc	tta	gca	att	gta	ccc	atc	att	gca	ata	gça	gga	gtt	gtt	2644
2379	Leu	ьeu	Leu	Leu	Ala	Ile	Уal	Pro	Ile			Ile	Ala	G1y	Val	Val	
2380					865					870					875		
2382	gaa	atg	aaa	atg	ttg	tct	gga	caa	gca	ctg	aaa	gat	aag	aaa	gag	cta	2692
2383	GIU	met	Lys	Met	Leu	Ser	Gly	Gln			Lys	Asp	Lys		Glu	Leu	
2384				880					885					890			
2386 2387	gaa	994	get	999	aag	att	gct	aca	gaa	gcc	atc	gaa	aac	ttc	cga	act	2740
2388	GIU	GIY	Ald	GTĀ	гÀг	Ile	Ala		GLu	Ala	Ile	Glu		Phe	Arg	Thr	
2390	~++	a++	895	**				900					905				
2390	77 a 1	77 n 1	Cor	LLG	act	cgg	gag	cag	aag	ttt	gaa	tac	atg	tat	gca	cag	2788
2391	vai	910	ser	Leu	THE	Arg		Gin	гла	Phe	GLu		Met	Tyr	Ala	Gln	
2394	201			~+~	~		915					920					
2395	cor	LLY	Cla	y La	CCa	tac	aga	aac	tct	ttg	agg	aaa	gca	cac	atc	ttc	2836
2396	925	пец	GIH	Val	PIO	Tyr 930	Arg	ASN	ser	ren		Lys	Ala	His	He		
2398		ata	+02	+++	+ 0+			~~~			935					940	
2399	999 G1v	Val	Sar	Dho	Cor	atc	mb~	Cag	gca	atg	atg	tat	TTT	TCC	tat	gct	2884
2400	Gry	v a r	261	FILE	945	Ile	THE	GIII	Ald	950	met	Tyr	Pne	Ser		Ala	
2402	aac	tat	ttc	caa		ggt	aaa	+	++~		~~~				955		2000
2403	Glv	Cva	Phe	Ara	Dha	Gly	712	Tur	LLY	y L y	yca 31a	aat	gag	Db-	atg	aac	2932
2404	011	010		960	1 116	GLY	Ата	ıyı	965	Val	ALd	ASII	GIU	970	мет	Asn	
2406	+++	cad	gat		ctt	ttg	rt a	tta		aat	2++	a+a	+++				2000
2407	Phe	Gln	Asp	Val	Len	Leu	Val	Phe	Ser	Δla	Tlo	Val	Dha	991	31a	Mot	2980
2408			975			200	,	980	DCI	nia	110	Val	985	GIY	нта	мес	
2410	qca	ata		cag	atc	agt	tca		act	cct	gac	tat		222	acc	222	3028
2411	Ãla	Val	Glv	Gln	Val	Ser	Ser	Phe	Ala	Pro	Asn	Tur	Ala	Lve	Δla	T.ve	3020
2412		990	-				995					1000	111u	בינם	ALU	пуз	
2414	gta	tca	qca	qcc	cac	gtc	atc	atq	atc	att			age	cct	cta	att	3076
2415	Val	Ser	Ăla	Ála	His	Val	Ile	Met	Ile	Ile	Glu	Lvs	Ser	Pro	Len	Tle	3070
2416	1009	5				1010					1015		001		Lea	1020	
2418	gac	agc	tac	agc	cct	cac	ggc	ctc	aaq	cca	aat	acq	tta	gaa	ααa	aat	3124
2419	Asp	Ser	Tyr	Ser	Pro	His	Gly	Leu	Lys	Pro	Asn	Thr	Leu	Glu	Glv	Asn	0111
2420				-	L025				3	1030]	1035		
2422	gtg	aca	ttt	aat	gag	gtc	gtg	ttc	aac	tat	ccc	act	cga	cca	gac	atc	3172
2423	Val	Thr	Phe	Asn	Glu	Val	Val	Phe	Asn	Tyr	Pro	Thr	Arg	Pro	Asp	Ile	
2424			1	.040				1	.045				1	050	_		
2426	ccc	gtg	ctc	cag	ggg	ctg	agc	ctc	gag	gtg	aag	aag	ggc	cag	acq	ctq	3220
2427	Pro	Val	Leu	Gln	Gly	Leu	Ser	Leu	Glu	Val	Lys	Lys	Gly	Gln	Thr	Leu	
2428		1	.055				1	.060				1	065				
2430	gcc	ctc	gta	ggt	agc	agt	ggc	tgt	ggg	aag	agc	aça	gtt	gtt	cag	ctc	3268
2431	Ala	Leu	Val	Gly	Ser	Ser	Gly	Cys	Gly	Lys	Ser	Thr	Val	Val	Gln	Leu	
2432	1	.070				1	075				1	080					
2434	cta	gag	cgc	ttc	tat	gac	ccc	ttg	gct	ggt	tca	gtg	cta	att	gat	ggc	3316
2435	Leu	Glu	Arg	Phe	Tyr	Asp		Leu	Ala	Gly	Ser	Val	Leu	Ile	Asp	Gly	
2436	1085					1090					1095					1100	
2438	aaa	gag	ata	aag	cac	ctg	aat	gtc	cag	tgg	ctc	cga	gca	cac	ctg	ggc	3364

DATE: 10/06/2000 PATENT APPLICATION: US/09/672,725 TIME: 12:46:04 Input Set : A:\485402_1.txt Output Set: N:\CRF3\10062000\I672725.raw 2439 Lys Glu Ile Lys His Leu Asn Val Gln Trp Leu Arg Ala His Leu Gly 2442 atc gtg tct cag gag ccc atc ctg ttt gac tgc agc att gcc gag aac 2443 Ile Val Ser Gln Glu Pro Ile Leu Phe Asp Cys Ser Ile Ala Glu Asn att gcc tat gga gac aac agc cgg gtc gta tca cat gaa gag att atg Ile Ala Tyr Gly Asp Asn Ser Arg Val Val Ser His Glu Glu Ile Met cag gca gcc aag gag gcc aac ata cac cac ttc atc gag aca ctc cct Gln Ala Ala Lys Glu Ala Asn Ile His His Phe Ile Glu Thr Leu Pro gag aaa tac aac acc aga gta gga gac aaa gga acc cag ctc tct ggt Glu Lys Tyr Asn Thr Arg Val Gly Asp Lys Gly Thr Gln Leu Ser Gly 1165 1170 1180 ggc cag aaa cag cgc att gcc ata gct cgc gct ctt gtt aga cag cct Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala Leu Val Arg Gln Pro cat att ttg ctt ttg gat gaa gct aca tca gct ctg gat aca gaa agt His Ile Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp Thr Glu Ser gaa aag gtt gtc caa gaa gcc ctg gac aaa gcc aga gaa ggc cgc acc Glu Lys Val Val Glu Ala Leu Asp Lys Ala Arg Glu Gly Arg Thr tgc att gtg atc gcc cac cgc ttg tcc acc atc cag aat gca gat tta Cys Ile Val Ile Ala His Arg Leu Ser Thr Ile Gln Asn Ala Asp Leu ata gtg gtg ttt cag aat ggc aaa gtc aag gag cat ggc aca cat caa Ile Val Val Phe Gln Asn Gly Lys Val Lys Glu His Gly Thr His Gln cag ctg ctg gcc cag aaa ggc atc tat ttt tcc atg gtc agt gtc cag Gln Leu Leu Ala Gln Lys Gly Ile Tyr Phe Ser Met Val Ser Val Gln 1265 1270 1275 gct gga gca aag cgc tagtgaactg tggccatatg agctgttaaa tatttttaa Ala Gly Ala Lys Arg tatttgtgtt aaaacatggc atttaatcaa agttaaaagg tgagcactta ctggaaaaac tatgtagaac tacctgttta acatttcttg ctgcaactga agatcattcc accaagttca gagtetteag attttataat taaaggaace aaaagaaaea ttatetgatg gaataaaata 2489 ctggtgttaa ttgcattata aaattataga gtaattcaaa gtagattttg ttaataaatt gtataatttt tgtttatatt ttatttgtaa cttactgctt tgctgaaaga ttatagaagt ggtaaaaagt actgaatgtt tgaataaagt gctagctata ataaaactaa acttttatat E--> 2492 caaaaaaaaa aaaaaaaaa 2663 <210> SEQ ID NO: 26) refer to p.6 2664 <211> LENGTH: 4279 2665 <212> TYPE: DNA 2666 <213> ORGANISM: Canis familiaris 2668 <220> FEATURE: 2669 <221> NAME/KEY: CDS

RAW SEQUENCE LISTING

2670 <222> LOCATION: (17)...(3859)

DATE: 10/06/2000 TIME: 12:46:05

2672 2673																		
2674	990	igege	gag	9100	199 0	icy y	at C	CCT C	jaa g	ga g	ige d	egt a	lag g	igg a	igt (gca ga	ag	52
2675					P	iec A	sp i	ro c	ilu G		ily 2	Arg I	ys (Sly S		Ala G	Lu	
2677	aan		++0	. +~~						5 .					10			
2678	Luc	, aac	Dho	. usa	aaa	laty	990	aaa	aaa	agt	aaa	ı aaa	ı aaa	ı gaç	aaq	g aaa		100
2679	пуз	, Mai	15	TIF	, гуг	Met	GT	, rĀS	туз	Ser	· Lys	Lys			ı Lys	Lys		
2681	722							20					25	i				
2682	Clu	Tura	T	Dwa	act	gte	ago	acg	ttt	gca	. atg	, ttt	cgc	tat	tea	aat		148
2683	GIU	. шұз 30	цўS	PIO	Thi	val	ser	Thr	Phe	Ala	Met			Tyr	Sei	: Asn		
2685	+ ~ ~						35					40	ł					
2686	Lyy	Tan	yat.	agg	ttg	tat	atg	ttg	rgtg	ggg	aca	ιatg	gct	gec	ato	atc		196
2687	45	Leu	Asp	Arg	Leu	Tyr	Met	Leu	Val	Gly	Thr	Met	Ala	. Ala	Ile	Ile		
			1			50					55	,				60		
2689 2690	cat	gga	gct	gca	ctc	cct	ctc	atg	atg	ctg	gtt	ttt	gga	aac	atg	aca		244
	HIS	GIY	Ala	Ala	Leu	Pro	Leu	Met	Met	Leu	Val	Phe	Gly	Asn	Met	Thr		
2691					6.5					70					75			
2693	gat	agc	ttt	gca	aat	gca	gga	att	tca	aga	aac	aaa	act	ttt	cca	gtt		292
2694	Asp	Ser	Phe	Ala	Asn	Ala	Gly	Ile	Ser	Arg	Asn	Lys	Thr	Phe	Pro	Val		
2695				80					8.5					90				
2697	ata	att	aat	gaa	agt	att	acg	aac	aat	aça	caa	cat	ttc	atc	aaç	cat		340
2698	He	Ile	ASN	Glu	Ser	Ile	Thr	Asn	Asn	Thr	Gln	His	Phe	Ile	Asn	His		
2699			95					100					105					
2701	ctg	gag	gag	gaa	atg	acc	acg	tat	gcc	tat	tat	tac	agt	qqq	atc	aat.		388
2702	Leu	GIU	Glu	Glu	Met	Thr	Thr	Tyr	Ala	Tyr	Tyr	Tyr	Ser	Gly	Ile	Glv		
2703		TIO					115					120						
2705	gct	ggc	gtg	ctg	gtg	gct	gct	tac	atc	cag	gtt	tca	ttc	taa	tac	cta		436
2706	Ата	Gly	Val	Leu	Val	Ala	Ala	Tyr	Ile	Gln	Val	Ser	Phe	Trp	Cvs	Leu		
2707	125					130					135				-	140		
2709	gca	gca	gga	aga	cag	ata	ctc	aaa	att	aqa	aaa	caa	ttt	ttt	cat	ant		484
2710	Ala	Ala	Gly	Arg	Gln	Ile	Leu	Lys	Ile	Arg	Lys	Gln	Phe	Phe	His	Ala		101
2711					145					150					155			
2713	atc	atg	cga	cag	gag	att	ggc	tgg	ttt	gac	qtq	cat	gac	att	aaa	gag		532
2714	Ile	Met	Arg	Gln	Glu	Ile	Gly	Trp	Phe	Āsp	Val	His	Asp	Val	Glv	Glu		JJ2
2715				T 0 0					165					170				
2717	ctt	aac	acc	cgg	ctc	aca	gac	gat	gtc	tcc	aaa	atc	aat	~==	ααa	att	1	580
2718	Leu	Asn	Thr	Arg	Leu	Thr	Asp	Āsp	Val	Ser	Lvs	Tle	Asn	Glu	Clv	Tlo		200
2719			T/2					180					185					
2721	ggc	gac	aaa	att	gga	atq	ttc	ttt	caa	tca	ata	aca	aca	+++	++0	3.00	,	600
2722	Gly	Asp	Lys	Ile	Gly	Met	Phe	Phe	Gln	Ser	Tle	Δla	Thr	Dha	Dho	mbr	,	628
2723		190	_		•		195					200	1111	FILE	FILE	1111		
2725	ggt	ttt	ata	gtg	qqq	ttt	aca	cat	ggt	taa	aaa	cta	200	a++	~+~	- + +	,	
2726	Gly	Phe	Ile	Val	Gly	Phe	Thr	Ara	Gly	Trn	Luc	T.OU	Thr	Tou	77.1	Tio		576
2727	205				•	210			011		215	LEα	TIIT	neu	Val			
2729 .	ttg	qcc	atc	agc	cct		ctt	gga	ctt	tca	213	~~~	3 t c			220	_	
2730	Leu	Ala	Ile	Ser	Pro	Val	T.011	Clv	Leu	Cor	712	315	ALC Tla	Egg	gca	aag	7	724
2731					225			O+Y	⊒∈u	230	nra	uld	тте	rrp		гÀг		
2733	ata	cta	tct			act	cat	222	gaa	230	++~	~~~			235			
2734	Ile	Leu	Ser	Ser	Phe	Thr	Juc Den	Luc	Glu	tou	LLY	yec Na	Lat	gca.	aaa	gct	7	772
2735				240		- 111	P		245	neu.	пеп	нта	ryr		гàг	Ala		
				- 40					24)					250				

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2737 2738	gga G1v	gca Ala	gta Val	gct	gaa	gaa	gto	tta	gca	gca	ato	aga Arg	act	gtg	att	gcc	820
2739			255					260	1				265				
2741	ttt	gga	gga	caa	aag	aaa	gaa	ctt	gaa	agg	tac	aac	aaa	aat	tta	gaa	868
2742	Phe	Gly	Gly	Gln	Lys	Lys	Glu	Leu	Glu	Arg	Tyr	Asn	Lys	Asn	Leu	Glu	
2743		270					275					280					
2745	gaa	gct	aaa	gga	att	ggg	ata	aag	aaa	gct	ato	acg	qcc	aac	att	tct	916
2746	Glu	Ala	Lys	Gly	Ile	Gly	Ile	Lys	Lys	Āla	Ile	Thr	Ãla	Asn	Ile	Ser	
2747	285					290		-	-		295					300	
2749	att	ggt	gcc	gct	ttc	tta	tta	atc	tat	gca	tica	tat	act	cta	act		964
2750	Ile	Gly	Ala	Āla	Phe	Leu	Leu	Ile	Tvr	Ala	Ser	Tyr	Δla	Len	Δla	Dho	204
2751		-			305				-1-	310		-1-		400	315	LIIC	
2753	taa	tat	aaa	acc	tcc	tta	atc	ctc	tee		gaa	tat	20+	a++	222	a	1012
2754	Trp	Tvr	Giv	Thr	Ser	Len	Val	Len	Ser	Ser	Glu	Tyr	Thr	T10	234 Cl.	Cla	1012
2755		-1-	2	320		200	, 41	LCu	325	SCI	Gra	TYL	1111	330	GIŸ	GLII	
2757	αta	ctc	act			+++	tat	at a		2++	~~~	gct		330	_ 4.4.		1050
2758	Val	Len	Thr	Val	Dho	Dha	Cor	Val	tou	Tlo	999	Ala	בננ	agt	att	gga	1060
2759	vul	пец	335	Val	FIIE	Pile	ser			ire	GTÀ	Ala		Ser	He	GLY	
2761	020	~~~						340					345				
2762	Cla	31.	Com	D	age	all	gaa	gca	ttt	gca	aac	gca	aga	gga	gca	gct	1108
2763	GIII	Ald	ser	Pro	ser	ire		Ala	Phe	Ala	Asn	Ala	Arg	Gly	Ala	Ala	
		350					355					360					
2765	Lat	gaa	atc	ttc	aag	ata	att	gac	aat	aaa	cca	agc	att	gac	agc	tat	1156
2766	Tyr	GIU	тте	Pne	Lys	He	Ile	Asp	Asn	$_{ m Lys}$		Ser	Ile	Asp	Ser	Tyr	
2767	365					370					375					380	
2769	tcg	aag	agt	gga	cat	aaa	cca	gat	aat	att	aag	gga	aat	ttg	gaa	ttc	1204
2770	Ser	Lys	Ser	Gly	His	Lys	Pro	Asp	Asn	Ile	Lys	ĞÎy	Asn	Leu	Glu	Phe	
2771					385					390					395		
2773	aaa	aat	gtt	cac	ttc	agt	tac	cct	tct	cga	aaa	gaa	gtt	aag	atc	tta	1252
2774	Lys	Asn	Val	His	Phe	Ser	Tyr	Pro	Ser	Arg	Lys	Ğlu	Val	Lys	Ile	Leu	
2775				400					405					410			
2777	aag	ggt	ctc	aac	ctg	aag	gtt	cag	aqt	qqq	caq	aca	ata	aca	cta	at.t	1300
2778	Lys	Gly	Leu	Asn	Leu	Lys	Val	Gln	Ser	Glv	Gln	Thr	Val	Ala	Leu	Val	1000
2779			415			-		420					425			,	
2781	ggg	aac	agt	ggc	tgc	qqq	aaq	agc	acq	acc	at.a	cag	cta	atσ	can	agg	1348
2782	Gly	Asn	Ser	ĞÎv	Cvs	Ğĺv	Lvs	Ser	Thr	Thr	Val	Gln	Len	Met	Gln	Ara	1340
2783	-	430		-	-	-	435					440	200		OII.	211 9	
2785	ctc	tat	gac	ccc	aca	αat	aac	atσ	atc	tat	att	gat	aaa	n a n	G 3 G	2++	1396
2786	Leu	Tyr	Asp	Pro	Thr	Asn	Glv	Mot	Val	Cyc	Tlo	Asp	Clar	Cla	300	Tio	1390
2787	445	-1				450	017	IIC C	Val	Cys	455	ASP	GIY	GTII	ASP	460	
2789		acc	ata	aat	αta		cat	att	000	~~~		act	~~+	~ + ~		400	1 4 4 4
2790	Ara-	Thr	Tla	Aen	Val	722	uic	Tou	200	gaa	all	Thr	ggt	greg	gtg	agt	1444
2791	ni 9	1111	116	non	465	Arg	nıs	ьeu	Arg		rre	Thr	GIY	vaı		Ser	
2793	030	~~~	+	~+~						470					475		
2794	Cla	gag	Doo	g Lg	LEG	דננ	gcc	acc	acg	ata	gct	gaa	aac	att	cgc	tat	1492
	GIII	GIU	PLO	Val	Leu	Pne	Ala	Thr		TTe	Ala	Ğlu	Asn		Arg	${ t Tyr}$	
2795 2797	~~-			480					485					490			
	ggc	cgc	gaa	aat	gtc	acc	atg	gat	gag	att	gag	aaa	gct	gtt	aag	gaa	1540
2798	GTÀ	arg	GLu	Asn	۷al	Thr	Met		Glu	Ile	Glu	Lys	Ala	Val	Lys	Glu	
2799			495					500					505				
2801	gcc	aat	gee	tat	gat	ttt	atc	atg	aaa	cta	cct	aat	aaa	ttt	gac	act	1588

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2802 2803	Ala	Asn 510	Ala	Tyr	Asp	Phe	Ile 515	Met	Lys	Leu	Pro	Asn 520	Lys	Phe	Asp	Thr	
2805 2806	ctg Leu	gtt Val	gga Gly	gag Glu	aga Arg	ggg Gly	gcc Ala	cag Gln	ctg Leu	agt Ser	ggt Gly	gga Gly	cag Gln	aaa Lys	cag Gln	aga Arg	1636
2807	525					530					535					540	
2809 2810		gcc Ala															1684
2811					545				-	550		_			555		
2813	gat	gag	gca	acg	tca	gct	ctg	gac	act	gaa	agt	gaa	gca	gtg	gtt	cag	1732
2814 2815	Asp	Glu	Ala	Thr 560	Ser	Ala	Leu	Asp		Glu	Ser	Glu	Ala		Val	Gln	
2817	ata	gcc	cta		аал	aca	ara	222	565	aaa	20+	200	2++	570	2+2	~at	1780
2818		Ala															1/00
2819			575				5	580	1	5			585	,			
2821		cgt															1828
2822 2823		Arg 590					595					600					
2825		gga															1876
2826 2827	605	Gly	val	ire	val	610	Lys	GLY	Asn	His	Asp 615	Glu	Leu	Met	Lys		
2829		ggc	att	tac	ttc		ctt	atc	aca	ato		aca	ада	ααa	aat	620 gaa	1924
2830	Lys	Gly	Ile	Tyr	Phe	Lys	Leu	Val	Thr	Met	Gln	Thr	Arq	Glv	Asn	Glu	. 1324
2831	-	-		-	625	•				630				1	635		
2833		gag															1972
2834	Ile	Glu	Leu		Asn	Ala	Thr	Gly		Ser	Lys	Ser	Glu		Asp	Ala	
2835 2837	++~	~	a + ~	640					645					650			0000
2838	LLG	gaa Glu	Mot	Ser	Dro	Luc	gat	cca	ggg	COT	agt	tta	ata	aaa	aga	aga	2020
2839	пси	Oru	655	Jer	FIO	Llys	пэр	660	СТУ	261	ser	ьеu	665	пуз	Arg	AIG	
2841	tca	act	cgc	agg	agt	ata	cat		cca	caa	ggc	caa		aga	aaq	ctt	2068
2842	Ser	Thr	Arg	Arg	Ser	Ile	His	Ála	Pro	Gln	Gly	Gln	Åsp	Arg	Lys	Leu	
2843		670					675					680					
2845 2846	ggt	aca	aaa	gag	gac	ttg	aat	gag	aat	gta	cct	cca	gtt	tcc	ttc	tgg	2116
2847	685	Thr	гуу	GIU	ASP	690	ASD	GIU	Asn	Val	695	Pro	vaı	ser	Pne	Trp 700	
2849		att	cta	aaσ	cta		tca	act	gaa	taa		tat	+++	ata	att		2164
2850		Ile															2101
2851					705					710		_			715	-	
2853		ttt															2212
2854	Ile	Phe	Cys		Ile	Ile	Asn	Gly		Leu	Gln	Pro	Ala		Ser	Ile	
2855 2857	ata	+++	tca	720	a++	2+2	~~~		725	200		~~+	~~~	730		~~~	2260
2858		ttt Phe															2260
2859			735	9		110	0+1	740	THE	1111	ni 9	тэр	745	пэр	FIO	GIU	
2861	aca	aaa	cga	cag	aat	agt	aac	atg	ttt	tct	gta	ttg	ttt	cta	qtc	ctt	2308
2862		Lys															
2863		750					755					760					
2865 2866		att															2356
2000	GTA	Ile	тте	ser	rne	тте	rnr	ьие	rne	ьeu	GIN	GТĀ	rne	Thr	rne	GTA	

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				-													
2867	765					770					775					780	
2869	aaa	gct	ggg	gag	atc	ctc	act	aag	cgg	ctt	cga	tac	atg	gtt	ttc	aga	2404
2870	Lys	Ala	Gly	Glu	Ile	Leu	Thr	Lys	Arg	Leu	Arg	Tyr	Met	Val	Phe	Arg	
2871					785					790					795	-	
2873	tcc	atg	ctg	aga	cag	gat	gtc	agc	tgg	ttt	gat	gac	cct	aaa	aac	acc	. 2452
2874						Asp											
2875				800		-			805					810			
2877	act	qqa	qca	ttq	aca	acc	agg	ctt	qcc	aat	qat	aca	act	caa	att	aaa	2500
2878						Thr											
2879		2	815				3	820					825			-1-	
2881	aaa	act	ata	aat	tee	agg	ctt	act	atc	att	acc	caq		ata	gca	aat	2548
2882		-				Arg		-	-						_		20.0
2883	U-1	830		01	201	9	835			~=-	****	840		110	1114	71011	
2885	ctt		aca	aac	att	att		tcc	tta	atc	tat		taa	caa	tta	acá	2596
2886						Ile											, 2330
2887	845	O L y	1111	O ₁	***	850		001	HC u	110	855	GLY	115	GIII	пса	860	
2889		tta	ctc	++=	ac a	att	at a	ccc	ato	a++		a+ a	40 2	aa.	a++		2644
2890						Ile											2044
2891	LCa	шец	пец	пец	865	110	Val	110	110	870	Ата	116	нта	GTĀ	875	vai	
2893	maa.	2+0	222	ato		tct	~~~		~~=		222	an+	224	222	•	at a	2692
2894						Ser											2032
2895	Giu	nec	шуз	880	пец	Ser	GLY	GIH	885	neu	nys	иэр	пуэ	890	Giu	пеп	
2897	~ 3 3	~~~	ant		220	att	act	202		~~~	2 ± 0	~~~	224		~~~	204	2740
2898						Ile											2/40
2899	GIU	GIY	895	GIY	ьуѕ	iie	Ald	900	GIU	нта	116	GIU	905	Pne	AIG	TIII	
2901	~++	~++		++~	2.4	cqq	~~~		224	+++	~~~	+		+ ~ +		~~~	2788
2902				-		Arg		_	-		-		_		_		2/00
2903	vai	910	ser	ьец	THE	AIG	915	GIII	гуу	Pile	GIU	920	met	тут	AĻa	GIII	
2905	a'a+		C33	~+ ·	000	tac		220	+ a+	++~	200		~~~		2+4	++-	2026
2906						Tyr											2836
2907	925	Leu	GIII	vai	FIU	930	Arg	MSII	Ser	пеп	935	гуу	Ата	птъ	rre	940	
2909		~+~	+	+++	+ -+		200	~~~	~~~	a+~		+ - +	+++	+			2884
2910						atc											2884
2910	GIY	Val	Ser	Lite	945	Ile	THE	GIII	Ald	950	met	туг	Pne	ser	955	Ala	
2911	~~~	+~+				~~+	~	+	++-		~~~						2022
2913						ggt Gly											2932
2914	GIY	Cys	Pne	960	Pile	GIY	Ald	TAT	965	Val	Ald	ASII	GIU		мес	ASII	
2917			4											970			2000
2917						ttg											2980
2918	Pne	GIN		Val	Leu	Leu	var		ser	АТа	ire	val		GTĀ	Ата	мет	
			975					980					985				2020
2921						agt											3028
2922	Ата		GTA	Gin	vai	Ser		Pne	Ата	Pro			Ala	răs	Ala	rys	
2923		990					995					1000					
2925	gta	tca	gca	gcc	cac	gtc	atc	atg	atc	att	gaa	aaa	agc	cct	ctg	att	3076
2926			Ala	Ala	His	Val		Met	Пe	TTe			Ser	Pro	Leu		
2927	1005					1010					1015					1020	
2929						cac											3124
2930	Asp	ser	Tyr			His	Gly	Leu			Asn	Thr	Leu		•	Asn	
2931				1	L025				1	L030				1	L035		

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2933		3172
2934 2935	val in the Ash Giu val val Phe Ash Tyr Pro Thr Arg Pro Asp Ile	31,2
2937	1040 1045 1050	
2938	July July 444 Ctd add Ctd add ata aaa aaa aaa aa aa aa aa aa aa ah	3220
2939	o 1055 Leu Gin Gly Leu Ser Leu Glu Val Lys Lys Gly Gln Thr Leu	
2941	1000	
2942		3268
2943	2 Ala Leu Val Gly Ser Ser Gly Cys Gly Lys Ser Thr Val Val Gln Leu 1070 1075	
2945		
2946		3316
2947		
2949		0
2950	Lys Glu Ile Lys His Leu Asn Val Gln Trp Leu Arg Ala His Leu Gly	3364
2951		
2953	atc gtg tct cag gag ccc atc ctg ttt gac tgc agc att gcc gag aac	2412
2954	The var ser Gin Giu Pro lie Leu Phe Ash Cys Ser Tie Ala Ciu Ase	3412
2955	1120 1125 1120	
2957	att gee tat gga gae aac age egg gte gta tea eat gaa gag att gte	3460
2958	and lyr Gry ASP ASP Ser Arg Val Val Ser His Clu Clu Tlo Val	3460
2959	1135 1140 1145	
2961		3508
2962	Gin Aid Aid Lys Glu Ala Asn Ile His His Phe Ile Glu Thr Leu Pro	3300
2963	1155 1160	
2965 2966	gag aaa tac aac acc aga gta gga gac aaa gga acc cag ctc tct ggt	3556
2966	did bys Tyr Ash Thr Arg Val Gly Asp Lys Gly Thr Gln Leu Ser Gly	
2969	11/0 1175 1100)
2970	ggc cag aaa cag cgc att gcc ata gct cgc gct ctt gtt aga cag cct	3604
2971	GIV GIR LYS GIR ATG THE ALA THE ALA ATG ALA Leu Val ATG GIR Pro	
2973		
2974	cat att ttg ctt ttg gat gaa gct aca tca gct ctg gat aca gaa agt	3652
2975	His Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp Thr Glu Ser 1200 1205	
2977	gaa aag gtt gtc caa gaa gcc ctg gac aaa gcc aga gaa ggc cgc acc	
2978	Glu Lys Val Val Gln Glu Ala Leu Asp Lys Ala Arg Glu Gly Arg Thr	3700
2979	1215 1220 1225	
2981	tgc att gtg atc gcc cac cgc ttg tcc acc atc cag aat gca gat tta	25.42
2982	Cys Ile Val Ile Ala His Arg Leu Ser Thr Ile Gln Asn Ala Asp Leu	3748
2983	1235 1240	
2985	ata gtg gtg ttt cag aat ggc aaa gtc aag gag cat ggc act gg	2706
2986	The var var the Gin Ash Gly Lys Val Lys Glu His Gly Thr His Cin	3796
2987	1250 1250 1255 1260	
2989	cag ctg ctg qcc cag aaa ggc atc tat ttt tcc atc ctg act	3844
2990	Gln Leu Leu Ala Gln Lys Gly Ile Tyr Phe Ser Met Val Ser Val Gln	2044
2991	1270 1276	
2993	gct gga gca aag cgc tagtgaactg tggccatatg agctgttaaa tattttaa	3899
2994	Ald Gly Ald Lys Arg	2000
2995 2997	1280	
4331	tatttgtgtt aaaacatggc atttaatcaa agttaaaagg tgagcactta ctggaaaaa	3959

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2998	tatgtagaac gagtetteag	tacctgttta attttataat	acatttcttg taaaggaacc	ctgcaactga aaaagaaaca	agatcattcc	accaagttca gaataaaata	4019
3000 3001 3002	ctggtgttaa gtataatttt	ttgcattata tgtttatatt	aaattataga ttatttgtaa	gtaattcaaa	ttatctgatg gtagattttg	gaataaaata ttaataaatt ttatagaagt acttttatat	4079 4139

€09/672, 7**2**5

Seg # 28 <210> 28

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

nnt tttttt tttttttt tttttttt ttcgccggcg acttaagatc tt

52

> missing mandatory (220) to (223) features to explain "n's" in sequence, sec. #10 on Error Summary Sheet.

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/672,725

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Input Set : A:\485402_1.txt

Output Set: N:\CRF3\10062000\1672725.raw

L:15 M:270 C: Current Application Number differs, Replaced Current Application No L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:15 M:270 C: Current Filing Date differs, Replaced Current Filing Date
L:362 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:2
L:362 M:252 E: No. of Seq. differs, <211>LENGTH:Input:4279 Found:4259 SEQ:1
L:499 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2
L:498 M:254 E: No. of Bases conflict, LENGTH:Input:1 Counted:4317 SEQ:3
L:1981 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:2
L:1981 M:252 E: No. of Seq. differs, <211>LENGTH:Input:4279 Found:4259 SEQ:22
L:2492 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:2
L:3003 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:2
L:3003 M:252 E: No. of Seq. differs, <211>LENGTH:Input:4279 Found:4259 SEQ:24
L:3003 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:28
L:3183 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:28
L:3183 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:28